

Appendix U

Compilation of Public Comment to the EDSTAC

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October 31 - November 1, 1996 – Washington, D.C.**I.**

Two opportunities were given at this meeting for the members of the public observing the proceedings to comment on all aspects of the formation of the EDSTAC.

October 31, 1996

Lynn Bradley, Director, Environmental Health, Association of State and Territorial Public Health Laboratory Directors, indicated that her organization has members interested in human monitoring and the related issues of how you deal with exposure. She recommended that EPA start thinking about addressing the human exposure concerns concurrently with the efforts to design a screening and testing program.

Chris Wilkinson of the Technology Sciences Group, Inc. related that, as a scientist, he is appalled with this process because law is mandating science and therefore science is under the gun. He also expressed concern about the perceived confusion surrounding the scope of the Committee. His advice was that since the law says EPA has to do one thing, develop a screen for estrogenicity, the Committee should deal with the law and then do the other tasks as time permits. The Committee's work could be utilized as a model for future efforts. He also suggested a set of steps the Committee should take: first, identify substances that have to go into a screen; second, complete the screens (a simple process that will raise flags); third, complete actual testing (dose-response issues); and fourth, bring in exposure because EPA will be doing a risk assessment.

Elizabeth Onon, who was not present at the meeting, asked that her comments be read into the record. Gary Timm of EPA read the letter. She asked the Committee to address the potential link between endocrine disrupters and the growing body of scientific knowledge regarding porphyria as relate to chemical disabilities. She further indicated that the nominees did not represent the victims of endocrine disrupters.

Stuart Cagen, Shell Chemical Company, indicated his support for the concept of what the Committee should produce. He suggested that the process has to include validation, interpretation, and an understanding of what EPA does with the results.

Steve Schraeder, National Institute for Occupational Safety and Health (NIOSH), expressed concern about the Committee only considering estrogens, especially as we now recognize that many of the effects we originally thought to be estrogens are actually anti-estrogens and anti-androgens. He suggested that the time is right for the Committee to go broader.

1 Mary Dadden, President, Long Island Breast Cancer Study, relayed her disappointment in how the
2 information regarding the meeting was communicated. She requested that, in the future, notice be
3 given at least four to six weeks in advance. In addition, she indicated her desire to see the
4 discussions recognize the truly dangerous nature of chemicals and pesticides in the environment
5 and their effects on humans. She suggested that the Committee consider opening at least two seats
6 to consumer advocates who are not involved from a scientific perspective but can bring the
7 concerns of the general public.

8
9 In response, the facilitator/convenor indicated that efforts to provide more notice will be made. He
10 also indicated that the National Breast Cancer Coalition had offered to assist in coordinating
11 efforts to involve disease-specific consumer interests in addition to breast cancer groups. One
12 nominee added that the addition of consumer advocates to the Navy Breast Cancer Study had been
13 very helpful and that this Committee should consider their inclusion. The idea of a
14 communications work group, where concerns around the possibility of the public misunderstanding
15 the results of screens and tests could be addressed, was raised. Another nominee added that the
16 Committee seemed to be missing a representative of the people affected most by these chemicals
17 and pesticides. The idea of moving the EDSTAC meetings around the country was raised as one
18 way to include a wide range of perspectives and interests including consumer advocates. In
19 addition, using the Internet to disseminate information was proposed, though its ability to
20 disseminate information to a wide range of individuals was also recognized.

21
22 Alan Robeson raised the issue of testing mixtures. He indicated that a lot of people are concerned
23 about pesticide runoff from agricultural lands and the combinations of pesticides. He
24 recommended that, if the Committee moves its meetings around the country, they should go to a
25 midwest city such as Chicago, Kansas City, or Des Moines in the spring.

26
27 John Berlau of Consumer Alert asked that the Committee consider consumer's interest, but added
28 that there are different definitions of what constitute "consumer interests." He asked that the
29 Committee look at the benefits of these substances as well as the negatives and said that consumers
30 do not benefit from regulations developed without good science.

31
32 Miranda Henning, ChemRisk, suggested that, given the exposure issues as well as the fact that the
33 information might be used in risk assessments, the Committee should involve a risk assessor.

34
35 Eric Juzenas, Health Policy Analyst, American Public Health Association, suggested that the
36 Committee's environmental justice representation should be enhanced by adding some additional
37 participants.

38
39 Rick Hind, Greenpeace, stressed that the Committee should keep in mind the issue of public
40 disclosure and participants should volunteer information regarding their financial backing and/or

1 interests as they relate to endocrine disrupter screening and testing if people want the process to be
2 truly transparent. Relating to scope he said that the Committee should focus on looking at this
3 through the lens of existing FIFRA and TSCA regulations. In addition, he felt that the Committee
4 should not get caught looking at chemicals one-by-one.

5
6 Charlie Cray, Greenpeace, wanted the Committee to look at persistent organic pollutants. He also
7 added that the Committee should incorporate, from an environmental justice perspective, some of
8 the folks who represent the people who suffer as a result of the migration of these substances to
9 the colder regions of the world (e.g., Alaska). He indicated that the public wants a list of products
10 they should not buy and labeling that explains what is in a product. Other countries that have
11 approached these issues, (e.g., Denmark) may be a useful source of information. If EPA is not
12 going to develop these lists, he asked, who will?

13
14 Nelsa Ford asked whether all future meetings were going to be public now? EPA indicated that all
15 EDSTAC meetings will be public, however, whether all work group meetings will be public
16 remains to be determined.

17
18 November 1, 1996

19
20 Maurice Zeeman, OPPTS, EPA, raised the issue of the Committee balancing ecological and human
21 health issues because so much uncertainty exists regarding human health effects whereas we are
22 more certain about ecological effects.

23
24 John McCarthy, American Crop Protection Association, commended the Committee nominees,
25 EPA, and Keystone on their efforts. He raised three points: first, focus equally on human and
26 ecological effects; second, look at all possible hormonal effect endpoints raised during the
27 deliberations in parallel, while recognizing the statutory importance of specific ones; and third, the
28 Committee should get on with the task at hand without getting too bureaucratic and use the
29 Science Integration and Coordination work group in the future if necessary.

30
31 Layla Patarsi, Center for Food Quality, Food and Drug Administration, explained that food
32 additives comprise a set of chemicals not currently regulated under TSCA or FIFRA, and asked
33 that the Committee consider them in their deliberations.

34
35 Robert Fisher, National Council of the Paper Industry for Air and Stream Improvement, talked
36 about the structure of the Committee and recommended that the group consider looking at how
37 the EPA structured a process dealing with the Gulf of Mexico where many similar issues were
38 addressed. They used a tiered process and included issue committees, a technical steering
39 committee, and a management committee/policy review board. He also added that the meetings of
40 the working groups should be open to the public for observation for two reasons, first, the private

1 sector is often involved in research relevant to the issues being discussed, and second, the private
2 sector is often involved in the decision making process and needs to know about the findings
3 coming out of these efforts.

4
5 Bill Kelley, the Institute for Regulatory Policy, recommended the nominees develop a list of what
6 can be done between the organizational meeting and the December meeting before leaving. He
7 also raised serious misgivings regarding the name endocrine “disrupters” and suggested changing it
8 to “disruption” or “effects” as the Committee is talking about a hazard screening process rather
9 than risk assessment.

10
11 Elizabeth Reeves, requested the Committee consider using cell culture testing rather than animal
12 tests. She added that the Committee should remember the ultimate stakeholder is the American
13 citizen and the ecological issues should not be overlooked.

14
15 Mary Ann Dodden, expressed support for the evolution toward a broader definition of endocrine
16 disrupters than just hormone disruption. If the definition says “only affect the hormone system,”
17 she felt, the Committee will not examine the immune, reproductive, growth and neuro systems.
18 She also stated that the Committee needs to recognize that other issues may be added to their
19 discussions as their understanding of science evolves.

20
21 Elsa Ford, asked the Committee to commit to follow-up testing of past use and new use chemicals
22 as pertains to endocrine disruption. Coordinated documentation, she added, is important in these
23 types of efforts. Finally, she said that the public needs to know about the cumulative effects of
24 chemicals and pesticides in the real world and asked the Committee not to focus only on single
25 ones.

26
27 Patricia Fail, Research Triangle Institute, told the Committee nominees she had been working
28 mainly on FIFRA issues for the past 10-15 years. After listening to the need for various screens
29 and tests during the past two days, she indicated that the Committee needs to take already existing
30 data (from FIFRA companies) and validate the tests that exist and see if the chemicals that test
31 positive are actually endocrine disrupters.

32
33 John Hines, an independent consultant, told the nominees that they need to address what
34 product(s) they expect as a result of this effort. He also indicated that the discussions on
35 prioritization of what issues to address were good. Regarding membership, he added, the
36 Committee nominations seem to be carefully structured and will result in a fairly large Committee,
37 so do not add too many more people.

38
39 **December 12-13, 1996 – San Francisco, California**

II.

Lewell D. Brenneman, MD, Ph.D., expressed his point of view that few toxins in the environment are tested for cancer and hormone disruption. He outlined two approaches for dealing with manufactured chemicals such as carcinogens--acceptable risk and public health, and expressed concern about the fact that it is usually the consumer, rather than the producer, that has the burden of proving chemical toxicity. Dr. Brenneman urged the EDSTAC to develop long-term and generational testing approaches to endocrine disruption.

Joan Reiss, Project Coordinator of the Bay Area Breast Cancer Study, urged the Committee to develop outreach activities beyond their present scope, using several and varied means of communication. Ms. Reiss encouraged the Committee to be bold, swift, and innovative with its activities. She also stressed that small doses of chemicals can have an additive effect, and she urged the Committee to consider this when looking at screening and testing. Ms. Reiss went on to request that the Committee identify key geographical areas and criteria to start studying endocrine disruption; that new chemicals should be kept off the market until proven not harmful to humans and animals; that acceptable dose standards be shifted from levels for adult males to those acceptable for a newborn infant; and that synergistic effects of chemicals be analyzed.

Cindy Dyer of the U.S. Department of Agriculture, Food Safety and Inspection Service, commented that brominated flame retardants, which bioaccumulate, and are widely used in shipping cartons, are a prevalent class of chemical which needs to be scrutinized. Dr. Dyer stated her view that there is currently too much concentration on dioxin and PCBs in the scientific community, and that brominated compounds, as opposed to chlorinated compounds, deserve closer investigation. Dr. Dyer also urged the Committee to utilize exposure hazard database information.

Judy Brady, a member of the Cancer Prevention Coalition and the Women's Cancer Resource Center, urged the Committee to look at the safety of breast milk as it relates to endocrine disruption.

Keith Bowers, of the IFS Kaiser Consulting Group, Global Environmental Issues Unit for Eastern Europe and the former Soviet Union, made the suggestion that the EDSTAC consider identifying and reviewing data developed in other countries that might help or provide insight and fill data gaps in its own and other domestic efforts related to endocrine disruption. Mr. Bowers stated that issues such as endocrine disruption are transborder issues, and that societies all across the globe are concerned and working on the same matters.

Sandra Marquart, of the West Coast office of Mothers and Others for a Livable Planet, asked the Committee to consider the following priorities for testing: pesticides, plastics, solvents, and other

1 products of major daily use. Ms. Marquart stressed her belief that this is an international issue,
2 heavily influenced by trade patterns. She also encouraged the Committee to adjust its risk
3 considerations from levels acceptable for adult males to finding the levels for the most susceptible
4 organisms (e.g., infants), and to address issues of synergism and threshold levels. Ms. Marquart
5 asked the EDSTAC to develop the most practical tests to find the greatest number of chemicals
6 given its budgetary constraints. She urged EPA not to wait for final endpoints to be determined,
7 but rather to take action and to extend public outreach to consumers at the first sign of possible
8 problems with chemicals. Ms. Marquart further urged the Committee to hold future meetings as
9 close to mass transit systems as possible.

10
11 Leslie Meister, of the Silicon Valley Toxics Coalition in San Jose, stressed the synergistic effects of
12 chemicals in Silicon Valley laborers' and consumers' bloodstreams. Ms. Meister urged the
13 Committee to use the "precautionary principle" in its decision making processes. She stated that
14 issues of importance in the screening process include the determination of exposure thresholds for
15 different populations (e.g., workers or children or *in utero* infants), and the identification of
16 endpoints.

17
18 Davis Baltz, of Commonweal, asked the EDSTAC to look at the synergistic effects of chemicals.
19 He suggested that, in order to streamline the EDSTAC's process, the Committee consider classes
20 of chemicals as a whole when it is determined that several individual chemical members of that
21 class pose problems. Mr. Baltz also stated that the validation of screens should provide
22 information that is both useful and predictive, allowing EPA to enact policies and draft legislation
23 that reduce exposure to hazardous chemicals. He, too, encouraged the Committee to adopt the
24 use of a "precautionary principle."

25
26 Robert Gould, Associate Pathologist at the Santa Theresa Community Hospital in San Jose and a
27 member of Physicians for Social Responsibility, urged the Committee to act promptly and to create
28 a timetable for developing appropriate methodologies. Dr. Gould stated that screening and testing
29 must be a part of an ongoing process of communication, and that the EDSTAC process should be
30 completely open and transparent, including activities of the work groups. He asked the Committee
31 to address estrogenic compounds; thyroid, androgenic, anti-estrogenic, and anti-androgenic
32 effects; and additive and synergistic effects. Dr. Gould suggested EPA regulate whole classes of
33 chemicals, and to use a "precautionary principle" as its guiding mechanism. He recommended that
34 measures of high sensitivity and low specificity be used; that both wildlife and human health
35 effects be considered; that background levels in humans should be taken into account; and that the
36 EDSTAC study entire populations and communities.

37
38 Ritchie Fraley, a scientist at SRI International, stated that while receptivity measurement is cost
39 effective and efficient, adherence to receptor-mediated tests could miss particular mechanistic
40 indications. Dr. Fraley indicated that technologies such as accelerator mass spectrometry might

1 prove helpful in the Committee's work. She also asked how testing would be funded, and who
2 would conduct the tests.

3
4 Jane Williams, of California Communities Against Toxics, stated that California is an industrialized
5 state, subject to a wide range of impacts including dioxin contamination and effects from military
6 facilities. She requested that the Committee address human health and ecological effects, as well
7 as synergistic impacts. Ms. William expressed concern that a lack of connection to the policy
8 making arena would render the process ineffective. She asked the Committee to consider the task
9 of implementation in the course of developing its recommendations and develop recommendations
10 in such a way that all producers and communities could understand and use them.

11
12 Please refer to Attachment F for textual statements provided by Dr. Brenneman, Ms. Reiss, Dr.
13 Dyer, Mr. Baltz, and Dr. Gould.

15 **Response to Public Comment**

16
17 The EDSTAC chair thanked the public for its comments and perspectives, adding that the degree
18 of the quality of the comments at this meeting were exceptionally intelligent and helpful. Dr.
19 Goldman explained that there would be four more meetings during this fiscal year in different parts
20 of the country, and that EPA hopes to improve its outreach efforts and will coordinate a
21 communications and outreach work group to assist in this effort.

22
23 Dr. Goldman stated that the endocrine disruption screening and testing process came about as part
24 of legislation on drinking water standards and pesticides. She emphasized that the matter of real
25 importance in the process is to do the necessary work using the best available science, and to do so
26 in a framework that will help make policy decisions to help public health and the environment. Dr.
27 Goldman clarified that the language in the standard in the new pesticide legislation is "a reasonable
28 certainty of no harm." She stated that the EDSTAC will take into account a multiplicity of
29 exposures, and that other processes are also under way to advise and inform the agency in this
30 matter.

31
32 Regarding the process of the advisory Committee, Dr. Goldman stated that all decisions made by
33 the Committee will be made in the full Committee in open session, and that much will be brought
34 to the Committee by work groups and individual scientists.

35
36 Dr. Goldman recognized that Toxics Release Inventory (TRI) matters are not of peripheral
37 concern for her. She stated her belief in the need to link domestic efforts with international
38 activities, and highlighted the fact that the Office of Economic Cooperation and Development
39 (OECD), which has been working on issues related to the testing of chemicals, recently decided to

1 address endocrine disruption issues. She also offered other examples of international efforts
2 related to chemical pollutants, endocrine disruption, and persistent organic pollutants, and that the
3 United States is presently working with Europe and Canada on long-range transport, global policy
4 on populations, and the planning of a meeting at the United Nations Environmental Programme
5 (UNEP) in January to discuss coordination of research.
6

February 5-6, 1997 – Houston, Texas

7 III.

8
9
10 Due to changes in the schedule, some members of the public were able to provide comments prior
11 to Dr. Goldman's departure during the afternoon of the first day of the Houston plenary meeting.
12 A period of two hours was also devoted to public comments later in the evening of the first day,
13 during which nearly the entire Committee was present. A total of nineteen members of the public
14 offered comments, twelve of whom also submitted written comments which can be found in the
15 EPA Docket. This meeting summary attempts to capture the essence of the comments made by
16 the public to the EDSTAC during both of those sessions. In addition, some members of the public
17 who were not present at the meeting sent written comments to The Keystone Center. While these
18 are not summarized below, they are also available through the Docket.
19

20 Sue Pope, a member of Downwinders At Risk and an advisory board member of the American
21 Lung Association of Texas, expressed great concern over human health and ecological problems in
22 her community seemingly attributable to endocrine disruption. In particular, Ms. Pope chronicled
23 health problems of her family and livestock alleged to stem from hazardous waste incineration at a
24 cement kiln in her area. Ms. Pope entered into the Docket a video which included a television
25 show about hazardous waste-related problems in her town, Winona, Texas. This segment is
26 entitled "Winona Residents Demand Justice for their Children" and is available through the EPA
27 Docket.
28

29 LaNell Anderson, a citizen from Channelview, Texas, detailed health problems in her community
30 and family as a result of the effects of dioxin releases along the Houston Ship Channel. Ms.
31 Anderson asked that the Committee make explicit its goals and expected steps for the
32 implementation of its recommendations, and that State authorities be involved in the EDSTAC as
33 appropriate. She asserted that the EDSTAC process merited close public scrutiny and monitoring,
34 as its effects will have national impacts. Ms. Anderson encouraged full, impartial, firm, and
35 informed participation by each of the Committee members in the EDSTAC process.
36

37 Brandt Mannchen commented on the composition of the Committee and encouraged awareness
38 that no specific interest in the Committee have the ability to unduly influence the process. He said

1 that he felt the Committee was not broad enough in its composition, especially with respect to
2 community-based group representation, specific health problem/developmental effects group
3 representation, and minority representation. Mr. Mannchen encouraged the EDSTAC to develop a
4 screening and testing program that would be flexible enough to accommodate chemical synergies,
5 additive effects, and new information as it becomes available.

6
7 Chavel Lopez, a member of the Southwest Public Workers Union in San Antonio, Texas,
8 commented on the health problems surrounding areas adjacent to Kelly Air Force Base due to fuel
9 and toxic chemical storage and toxic chemical dumping. Mr. Lopez, a member of a group of
10 approximately 500 concerned citizens in Bear and Medina counties, raised concerns regarding
11 contamination of the Edwards Aquifer. He also urged that the Committee include more
12 representation of people-of-color.

13
14 LaNell Anderson read a statement written by Ms. Phyllis Glazer, President of Mothers Organized
15 to Stop Environmental Sins (MOSES), which raised concerns about the effects of a hazardous
16 waste incineration facility near the town of Winona, and expressed dissatisfaction with the
17 requirements of State agencies in requiring testing for dioxins. In addition, Ms. Glazer's statement
18 offered concern about the effects of other hazardous waste sites shipping waste to the incinerator
19 for disposal and/or storage.

20
21 Jane Elioseff, of the Galveston-Houston Association for Smog Prevention (GHASP), an
22 organization devoted to improving the air quality of the Galveston-Houston area, noted that the
23 Galveston-Houston area is a severe ozone non-attainment area with high levels of nitrogen oxide.
24 She stated that this represented a large air quality problem for a suburban area. Ms. Elioseff said
25 that GHASP, which receives funding from the W. Alton Jones Foundation to pursue its work, has
26 determined that endocrine disruption is connected to air pollution and has just published a report
27 on air quality in Houston, called "Danger in the Air," which she made available for the Docket.

28
29 Yolanda Johnson, a member of the Southwest Public Workers Union in San Antonio, Texas,
30 expressed great concern with the generational effects of environmental contamination and
31 endocrine disruption. Both she and her husband have experienced health problems, as have most
32 members of their family raised near the fuel and chemical storage and disposal sites at Kelly Air
33 Force Base. Ms. Johnson thanked the Committee for its work, and urged the EDSTAC to
34 encourage greater communication and disclosure with respect to endocrine disrupting hazards.

35
36 Susan Pitman, Network Coordinator of The Chemical Connection, A Public Health Network of
37 Texans Sensitive to Chemicals, commented that the Committee ought to consider chemically-
38 sensitive persons and vulnerable populations in screening and testing for endocrine disruptors,
39 rather than using healthy adult males as its benchmark.

1 Dominga Adams, a member of the Southwest Public Workers Union in San Antonio, Texas,
2 detailed numerous ailments experienced by both herself and her husband, as well as by their
3 children and grandchildren. Ms. Adams expressed doubt that her family's health problems were
4 genetic, and indicated she felt they were caused by chemicals from Kelly Air Force Base. She also
5 encouraged thorough governmental communication with the public in instances where health risks
6 may or do exist.

7
8 Suzanne Martine Rohrer, of The Endometriosis Association, explained that she was diagnosed
9 with endometriosis, discussed the effects of the disease, and outlined the consequent challenges in
10 her life due to the disease. She urged the Committee to work diligently and asked that dioxin
11 receive particular scrutiny, since high level exposure to dioxin has been associated with increased
12 incidents of endometriosis.

13
14 Kim Phillips, former environmental chairman for the Texas PTA, said that she was grateful for and
15 supportive of the Committee's work, and asked that children, rather than adult males, be used as
16 guides for exposure effects. Ms. Phillips cautioned the EDSTAC that consensus processes can
17 prove difficult, but that they are worth the effort. She outlined some of her organization's
18 principal concerns with respect to endocrine disruptors, and urged the Committee to consider the
19 synergistic effects of chemicals and to err on the side of caution.

20
21 Raul Villar, a retired welder from Kelly Air Force Base, commented on his family's health
22 problems since living near Kelly Air Force Base, and expressed anger that the contamination of the
23 area around his home had not been made publicly known prior to his purchase of the lot.

24
25 David Casen, of Save Whitewright and Tri-Counties (SWAT), said he was concerned about
26 dioxins in his community, and deeply cynical about the consensus process of the EDSTAC. Mr.
27 Casen stated that he feared the Committee's decisions would be made based on political
28 considerations. He also expressed his concern caused by having representatives from chemical
29 production companies on the Committee. Mr. Casen asked the EDSTAC to use mechanistic
30 findings as suggestive but not limiting factors in screening and testing, and that the Committee
31 adopt the "precautionary principle."

32
33 Virginia Castillo, a citizen residing near Kelly Air Force Base, asked that someone look into the
34 causes of numerous health problems in the community adjacent to the Base.

35
36 Davis Baltz, a Research Associate with Commonweal, outlined eleven points. These points
37 covered: using caution to determine when an effect was "adverse;" the importance of the
38 EDSTAC's Principles Work Group, its charge, and its composition; deferral of chemicals in the
39 screening and testing process; the importance of recognizing new information on endocrine
40 disruption and chemical effects; the need for "a new paradigm" with respect to timing and

1 exposure information; a re-evaluation of quantitative risk assessment; the encouragement of the
2 use of the “precautionary principle;” the need for EPA to identify and allocate material resources
3 to permit full participation and expression of all points of view within work groups; his desire to
4 have a defined schedule of meeting dates for the duration of the EDSTAC process; the need for
5 encouraging public education and comment on matters related to endocrine disruption from other
6 countries; the importance of studying sex steroid- and thyroid-related effects; and, the need for
7 screening, testing, and evaluating endocrine disruptors to become an ongoing responsibility of
8 EPA.

9
10 Neil Carman, Ph.D., of the Sierra Club and formerly of the Texas Air Quality Board, presented
11 comments from people near a site in Jacksonville, Arkansas, which expressed doubts about the
12 fairness of health studies by the EPA and the Agency for Toxic Substances and Disease Registry.
13 Mr. Carman also said he had little faith in the regulatory process. He urged the EDSTAC to look
14 at synergistic effects of chemicals and to use the “precautionary principle.”

15
16 Winifred Hamilton, Ph.D., of GHASP, stated that she felt most affected communities are not
17 represented adequately in decisionmaking processes related to endocrine disruption. She said it
18 was difficult to buy a non-contaminated house in Houston due to the prevalence of chlordane. Dr.
19 Hamilton urged the Committee to remain focused on health concerns, and offered caution that
20 consensus processes not be misused. She continued by outlining principles she felt were
21 important, including shifting the focus of acceptable levels of endocrine disruptors to protecting
22 the most vulnerable populations (e.g., children and conceptuses *in utero*).

23
24 Judy Starns, a citizen from Channelview, Texas, outlined the impacts of contamination in her
25 community, and expressed concern that her community has not been able to have a fair health
26 study conducted.

27
28 Karla Lamb, a citizen from Channelview, Texas, outlined personal health problems since moving to
29 Houston in 1975. She expressed anger and frustration at the deleterious effects chemical exposure
30 has had on her health, and urged the Committee to help others in similar situations.

31 32 **Response to Public Comment**

33
34 Dr. Fenner-Crisp thanked the members of the public for their comments. She stated that due to
35 the mandate under which the EDSTAC was operating, the scope of the Committee’s deliberations
36 would likely have to start by focusing on the sex steroids, but that such a focus was not indicative
37 of the EPA’s research priorities.

1 Regarding the public request for a document detailing the state of the science related to endocrine
2 disruption, Dr. Fenner-Crisp stated that the EPA has been working on such a document for one
3 and one-half years. The document is currently undergoing review by EPA's Science Policy
4 Council, and should be available on the World Wide Web and in hard copy through conventional
5 avenues shortly.

6
7 Referring to public comments on the EDSTAC process and concerns with respect to consensus
8 processes in general, the facilitator stated that comments on the Committee's process, even critical
9 ones, are very welcome. With respect to the availability of information, he said that he hoped the
10 use of the World Wide Web site would help meet the needs of the public, and added that the pace
11 of the EDSTAC would hopefully decrease, thereby allowing members of the public an easier
12 opportunity to track its deliberations.

13
14 Members of the Committee spoke to the concerns citizens raised about having representatives
15 from chemical producing industries sitting on the EDSTAC. Some members firmly stated that
16 there was, in no manner, a conflict of interest. In fact, Committee members pointed out, it is only
17 in places like the EDSTAC that representatives of all interested parties can speak and share
18 commonalities as humans, and that a level of trust in the commonality of commitment would have
19 to evolve.

20
21 Committee members also cautioned members of the public against putting all their hope in the
22 EDSTAC as the solution to endocrine disruption or, more generally, to environmental
23 contamination. They stated that the EDSTAC is only one part of a process to improve the
24 situation, and that the limitations of science alone would likely present very real constraints to the
25 effectiveness of the Committee.

26 27 **IV. April 29 - May 1, 1997 – Baltimore, Maryland**

28
29
30 Following a brief public reception hosted by the EDSTAC and attended by several members of the
31 Committee on the first day of the plenary meeting, members of the public were invited to offer
32 comments related to the scope and charge of the EDSTAC. The public comment session lasted
33 longer than two hours, and allowed time for more than forty individuals to provide comment to
34 Committee members, nearly all of whom were present. Due to the number of individuals seeking
35 to provide public comment, all those who signed up to speak to the EDSTAC were requested to
36 keep their comments to no more than four minutes in length. While this request may have caused
37 frustration on behalf of some individuals, the intended and effected result was to allow all persons
38 wishing to provide comment the opportunity to do so. Written comments submitted by members

1 of the public may be found in the public docket (Docket Number--OPPTS-42189; phone 202-260-
2 7099). This meeting summary attempts to capture the essence of the comments made by members
3 of the public to the EDSTAC during the public comment session.
4

5 Thomas Hobbins, MD, from Physicians for Social Responsibility, commented that one of the most
6 important recommendations offered by his organization is that Congress needs to provide a higher
7 level of funding for endocrine disruption research. Dr. Hobbins related anecdotally the potential
8 for paradigmatic shifts in thinking related to perception and actual awareness of health problems
9 and risks. He urged the Committee to look at zero tolerance as a guide post rather than acceptable
10 thresholds for risk.
11

12 Keith Bowers, of ICF, Inc., offered comments concerning international institutions working on
13 issues of endocrine disruption. Mr. Bowers commented that the endocrine disruptor-related work
14 being done by agencies and organizations such as the United Nations Environmental Programme
15 and the OECD is being conducted in conjunction with their work on persistent organic pollutants.
16 He stated that it was important for the EDSTAC to know how its work differs conceptually from
17 the OECD's work, and that the Committee should look at non-persistent organic pollutant types of
18 chemicals.
19

20 Gail LeMaire, Ph.D., of the Endometriosis Association, stated that there are currently millions of
21 American women and girls with endometriosis, and expressed frustration at the lack of support for
22 women with the disease, as well as the lack of information and research on the disease to date. Dr.
23 LeMaire requested that more research be conducted on the relationship of chemicals such as
24 dioxin, PCBs, and TCCD and their effects on the body. She added that studies should not simply
25 examine instances of adverse effects, but should be proactive before such effects are manifested in
26 the body. Dr. LeMaire concluded by stating that progesterone is noticeably missing from the
27 EDSTAC's scope.
28

29 Anneke Davis, from the Maryland Conservation Council commented on the public information
30 process of the EDSTAC. Recognizing that the Committee is under tremendous pressure to
31 produce their deliverables, she stated that testing is going to take a lot of time and money, as well
32 as public support. In order to accomplish this and to garner public support for adequate funding of
33 the implementation of the EDSTAC's recommendations, Ms. Davis encouraged the Committee to
34 keep groups of citizens concerned about endocrine disruption issues, such as the Maryland
35 Conservation Council, informed. Furthermore, Ms. Davis encouraged the EDSTAC to draft its
36 final report in a manner that will be intelligible to and usable by the general public. Finally, she
37 urged that the Committee not forget that the effects of endocrine disruptors on ecological systems
38 can have a tremendous impact on humans as well.
39

1 John Holtzman, of the Chemical Manufacturers Association noted his appreciation of the
2 Committee's emphasis on insisting upon a scientific approach to its deliberations and deliverables.
3 He noted that the EDSTAC's work will benefit the large number of studies currently being
4 conducted in the field of endocrine disruption.

5
6 Carolyn Burrige, of the Maryland Chemical Industry Council complimented the members of the
7 EDSTAC on their progress, and noted the timeliness of the Committee's work given the attention
8 endocrine disruption is getting in state and national legislatures. However, she expressed concern
9 that the state of the science on endocrine disruption is not yet sufficiently advanced to allow the
10 formulation of sound public policy related to the subject. She encouraged the EDSTAC to
11 emphasize the need for solid science and facts in its work, and to appropriately apply its limited
12 resources toward this end.

13
14 Susan Gilson, from FMC Corporation, expressed support for the work of the EDSTAC, and
15 encouraged the Committee to develop recommendations useful to professionals in fields affected
16 by endocrine disruption, referencing her position as an industrial hygienist as an example of such
17 fields. In addition, she noted interest in the work of the STWG in gauging dose responses, as well
18 as other tools the work group employs.

19
20 John Casana, an environmental engineer, stressed his desire for the EDSTAC to use a scientific
21 approach to quantifying risk and decision making in its work; to make a conscious decision as to
22 what degree of uncertainty is acceptable in its recommendations; and, if there is greater uncertainty
23 than appropriate, to devise a way to get to an acceptable level of uncertainty for a defensible
24 position for future generations.

25
26 Grace Ziem, MD, Ph.D., requested that the EDSTAC seek testimony from physicians who are
27 treating humans suffering from problems related to endocrine disruption when making
28 recommendations for screening and testing. Dr. Ziem encouraged the Committee members to be
29 sensitive to frustrations that can occur in the interface of academics and physicians, and asked that
30 the Committee allow as much flexibility as possible in its recommendations for physicians to treat
31 their patients according to their own judgment.

32
33 Linda Roberts, an employee of Chevron, requested that, whenever possible, the public have access
34 to documents discussed at the plenary meetings in advance of such meetings to allow for
35 appropriate comment and understanding of the issues. She expressed appreciation for
36 Dr. Goldman's comments with respect to validation and encouraged the Committee to develop
37 clear criteria for interpreting the results from screens and tests. In addition, she noted that, as data
38 from screens and tests are collected, it would be useful to check this data against known endocrine
39 disruptors to see how predictive the testing was. Ms. Roberts also requested the Committee to be

1 sensitive to the issues of dose selection, and to hold more discussion with respect to the issue of
2 zero tolerance.

3
4 Ajax Eastman, a former member of the Maryland Conservation Council, expressed concern about
5 the development, production, and release of potential endocrine disrupting chemicals during the
6 time it takes for the EDSTAC to reach consensus on a screening and testing program for EPA. He
7 questioned whether a science or policy measure existed to slow or stop the introduction of such
8 new chemicals until the Committee's recommendations are developed. Mr. Eastman also
9 expressed concern that the CF would allow issues such as risk assessment and cost/benefit analysis
10 to put greater priority on economic matters than human and ecological health.

11
12 Pat Lane noted great concern about the health consequences of the incineration of medical and
13 municipal wastes. Ms. Lane expressed appreciation for the publicly open and flexible process
14 being used by the EDSTAC in developing its recommendations. In addition, she commented that
15 terms such as "risk assessment" and "parts-per-trillion" are perhaps not clearly or fully understood
16 by the general public, and that such terminology takes on international implications when used in
17 reference to chemicals used around the world. Furthermore, Ms. Lane noted that the public's
18 perception of risk is a critical element in effective communication and protection, and asked the
19 Committee to use any influence it had to encourage medical facilities to sort their waste and reduce
20 the incineration of PCBs.

21
22 Lisa Carlson and Kirstin Smith, both medical students at Johns Hopkins University and members of
23 the student chapter of Physicians for Social Responsibility, presented a joint statement and
24 expressed both concern that only two systems--the gonadal and thyroidal systems--were
25 mentioned in the Committee's scope, as well as hope that the Committee would expand its scope
26 beyond estrogen-, anti-estrogen-, androgen-, anti-androgen-, and thyroid-related effects. Ms.
27 Smith read a statement from the student chapter of Physicians for Social Responsibility which
28 called for: (1) larger studies on humans and animals looking at chemical effects and synergies; (2)
29 the burden of proof to be placed on manufacturers to prove the safety of chemicals before
30 marketing them; (3) the use of small doses in testing for endocrine disruption; (4) restrictions on
31 medical waste incinerators and annual monitoring by EPA of waste from every incinerator for
32 levels of mercury and dioxin; and (5) aggressive education of the public by EPA on endocrine
33 disruption.

34
35 Phyllis Glazer and Sherre Holmer, of Mothers Organized to Stop Environmental Sins (MOSES),
36 detailed the story of Winona, Texas, where a well was driven through the local aquifer for the
37 injection of hazardous waste into the ground, which resulted in contamination of the aquifer. They
38 commented that, in most cases, those affected by endocrine disruption lack political power, and
39 urged that any screening and testing program should make use of anecdotal information from
40 affected persons who live or have lived within two miles of facilities which store, produce, or

1 dispose of hazardous waste. Furthermore, Ms. Glazer and Ms. Holmer requested that the
2 screening and testing program developed by the Committee take into account the synergistic
3 effects of multiple chemicals, due to their view that the regulation of exposure to single chemicals
4 is a matter of regulatory convenience. They recommended that the screening and testing program
5 focus on: the most vulnerable life stages; both human health and the environment; and the
6 transference of chemicals through bioaccumulation and human relationships (e.g., breast feeding).
7 In addition, they recommended that: information about the potential harm of any substance be
8 released from the Committee to the public at the earliest opportunity; the Committee place
9 emphasis on the certainty of safety. They noted that the endocrinological effects do not necessarily
10 follow a linear relationship, and that current levels of acceptable risk burden populations of
11 minorities. Finally, they urged the EDSTAC to practice good science without allowing an uneven
12 balance of representation on the Committee. In accord with this, they recommended that the
13 Committee membership be restructured to decrease the number of agency and industry
14 representatives.

15
16 Albert Donnay, executive director of MCS Referral and Resources, addressed the definition of
17 “endocrine disruptor” as discussed by the Committee. Mr. Donnay commented that the inclusion
18 of the notion of “adverse” in the definition overlooks the fact that there are many endocrine
19 disruptors that may produce beneficial or therapeutic effects, and that effects of endocrine
20 disruptors may vary by individual. He encouraged the Committee to remind the public that such
21 beneficial endocrine disruptors do exist. In addition, he asked the Committee to not only include
22 the young and developing in recommended field studies, but to also include elderly animals. Mr.
23 Donnay also encouraged the Committee to consider its definition reference to exogenous
24 substance, stating that light can have an effect on hormones (e.g., diurnal cycles). Finally, he asked
25 that the EDSTAC clarify their definition inclusion of “(sub)populations” to identify what the
26 smallest subpopulation that needed to be considered was.

27
28 Gwen Dubois, MD, of Physicians for Social Responsibility, stated that the consideration of groups
29 and classes of chemicals rather than of individual chemicals in the screening and testing program
30 was very sensible. She urged the Committee to not be reticent to recommend action on
31 information of harmful endocrine disruption to ban certain chemicals. In addition, Dr. Dubois
32 expressed hope that the Committee’s recommendations would address exposure to multiple
33 chemicals, and asked the Committee to consider the hazards of medical waste.

34
35 Raymond Yang, a professor of Toxicology at Colorado State University, applauded the endurance
36 of the EDSTAC members through the course of difficult deliberations. He expressed his view that
37 the figure regarding the number of chemicals released into the environment used by the Committee
38 was low, and encouraged the Committee to give serious consideration to the issue of mixtures in
39 all of its deliberations, products, and recommendations.

1 Bruce Baird Struminger, a student at Johns Hopkins University Medical School, expressed concern
2 regarding the way that EPA formed the EDSTAC. He stated his view that the Committee lacked a
3 clear sense of consensus on the definition of “endocrine disruptor” and noted that, while simplicity
4 is good where appropriate, the emphasis in the definition should be on accuracy. Mr. Struminger
5 stated that the issue of endocrine disruption is a complex one, and that a simple definition would
6 not help protect the public health. He urged that scope be enlarged to include additional
7 hormones, and expressed his feeling that policy on endocrine disruption is getting ahead of the
8 clinical science on the issue. He expressed dissatisfaction with the level of education on
9 endocrinology in medical schools, as well as the lack of communication about the issue of
10 endocrine disruption in endocrine journals. He asked the Committee to take a precautionary
11 stance in its recommendations and, given the growing and irreversible bioaccumulation levels of
12 dioxins and PCBs, to place the onus on industries to prove their products do not compromise
13 human health.

14
15 Audrey R. McMahon, from the Learning Disabilities Association, stated that maternal thyroid
16 dysfunction is a very serious endocrine disruption issue. She further stated that EPA research has
17 clearly related PCBs to diminished thyroid function and subsequent effects on humans, including
18 embryonic development. Ms. McMahon expressed her view that developmental disabilities are
19 epidemic in the United States, and added that she hoped the Committee’s recommendations would
20 help this situation.

21
22 Mimi Cooper, of the League of Women Voters in Baltimore, expressed her hope that chlorines and
23 the burning of dioxins would be affected by the Committee’s work and would eventually be
24 brought under control.

25
26 Yataka Aoki, from Johns Hopkins University Public Health School, stated that it is difficult for
27 members of the general public to understand what Types I and II errors are, and asked the
28 Committee to use commonly familiar language in its recommendations and final report.

29
30 Erica Wexler, a science teacher from South Baltimore and a member of the Community Advisory
31 Panel, commented that it was important for the EDSTAC to follow a scientific process and take all
32 the advice and views into account as it proceeds with its tasks. She added that the Committee
33 should identify the best screens and tests, validate them, and implement their use.

34
35 Greg Merrill, from the Chlorine Chemistry Council, noted a threefold increase in state legislation
36 that make reference to endocrine disruption, and that those who were responsible for creating
37 many of the regulations and laws, particularly at the state level, are looking to the EDSTAC for
38 guidance. He stated that it was important that the foundations EDSTAC establishes and the
39 principles adopted be based on sound science to ensure confidence in their implementation.
40

1 Davis Baltz, of Commonweal, described journal articles about gender maturation and exposure to
2 certain chemicals. He stated that, as reflected by research in the popular press; evidence of
3 endocrine disruption is increasing. Mr. Baltz expressed hope that the Committee would draw the
4 conclusion to increase research and prevent exposure. He stated that members of the public have a
5 right to know about the EDSTAC's activities, and that plenaries should continue to be conducted
6 across the country to allow input from different geographical areas.

7
8 Ann Mulligan, National Coordinator for The DES Cancer Network, stated that DES-affected
9 persons represent one of the few populations known to be affected by endocrine disruption. She
10 urged the Committee to construct a new paradigm for endocrine disruption, and to adopt zero risk
11 and precautionary principles. Ms. Mulligan described generational effects of DES, adding that
12 DES is still being given to women in other countries and the affected population, therefore, is a
13 global one. She commented that traditional risk assessment failed those exposed and needs to be
14 revisited, noting that another chemical, AZT, currently being prescribed to pregnant women
15 shows DES-like effects.

16
17 Alyce Ortizar, of the Well Mind Association of Greater Washington, detailed cancer rates and
18 breast cancer incidence stating that she was troubled by the fact that companies that have caused
19 endocrine disruption seem to be benefiting from treating endocrine disruption. She urged the
20 adoption of zero tolerance beliefs, and the shifting of the burden of proof onto industry.

21
22 Carolyn S. Van Pelt, of DuPont and the American Crop Protection Association, applauded the
23 Committee for its process and for the work performed thus far.

24
25 Daniel Pontious, from the Maryland Public Interest Research Group, stated that the information
26 shared with the public is only as good as the testing that is done to generate that information. He
27 expressed his appreciation that the Committee would be looking at multiple chemical exposures,
28 and encouraged the use of caution and scrutiny in looking at low-dose toxicity of some chemicals.

29
30 Keary Cope, a student at Johns Hopkins University, suggested the consideration of certain
31 metabolites in the Committee's work.

32
33 Alan Noe, of the American Crop Protection Association, noted that the large number of public
34 commenters indicated a high level of interest in issues related to endocrine disruption. He
35 commented on the role and benefits of pesticides in the American agricultural sector, and
36 discouraged the use of the precautionary principle. He also urged that science "drive" the
37 EDSTAC process.

1 Lara Shane, of Responsible Industry for a Sound Environment, expressed her belief that the
2 EDSTAC process is a great one to bring people from the different sides of the spectrum to come
3 together in productive discussion and action, and offered the Committee her wholehearted support.
4

5 Valerie Jewitt, from the American Crop Protection Association, commented that her family had
6 been impacted by the incidence of breast cancer, and said she supported getting all affected parties
7 involved in the EDSTAC process. She encouraged the use of sound science in effecting the
8 parties' mutual goal of making the environment safer for all life, and added that she looked
9 forward to when this type of process is commonplace in decision making.
10

11 Charles Cangerni, of Reliance Fire Protection, discussed the role of small business in the United
12 States, noting that they do not generally have the same employment and financial resources as
13 large companies. Mr. Cangerni urged the Committee to keep small businesses in mind when
14 recommending screening and testing techniques.
15

16 Melissa Sheridan, a member of the Endometriosis Association, stated that she suffers from the
17 disease, and told the Committee that the EDSTAC's work is vitally important and very
18 appreciated.
19

20 Gail McPherson, an American Agri-woman and farmer, expressed great concern regarding her
21 feeling that the general public was characterizing the agricultural sector as polluting and causing
22 disease. She urged the public and the EDSTAC to remember the role of the agricultural sector in
23 the development of the United States.
24

25 David Fisk, a medical student at Johns Hopkins University and member of the student chapter of
26 Physicians for Social Responsibility, stated that endocrine disruption was a major topic of
27 discussion at a recent national conference in Chicago. He urged that the burden of proof rest on
28 chemical manufacturers and incinerator operators.
29

30 Polly Walker, MD, encouraged the adoption of zero exposure and precautionary principles and a
31 new type of risk assessment. She stated that the long lasting and irreversible effects of endocrine
32 disruption are unconscionable. Dr. Walker further stated that unless the real levels of potential
33 harm are put into the equation of risk assessment, new technologies will not be developed to
34 address them. She encouraged the Committee to consider the synergistic and additive effects of
35 chemicals in endocrine disruption.
36

37 Victor Perez, a medical student at Johns Hopkins University and a member of a south Baltimore
38 community, stated that his community receives disproportionate effects from hazardous waste. He
39 noted that amphibians tend to be the first type of organisms to be noticeably affected by
40 environmental changes due to their breeding patterns and aquatic life. Similarly, he stated that

1 inner-city and urban populations have emerged as somewhat of an indicator species for humankind,
2 especially in reference to endocrine disruption. He encouraged the Committee to seriously
3 consider such populations in its deliberations.
4

5 **Response to Public Comment**

6
7 Judy O'Brien, Associate of The Keystone Center, thanked the members of the public for their
8 comments and asked Committee members if they had any comments, clarifications, or questions
9 related to the public comment.

10
11 With respect to Dr. Ziem's comments, one Committee member noted that the continued need to
12 integrate the work of the EDSTAC with practitioners is one that has been reiterated by Committee
13 members themselves throughout the EDSTAC process. In addition, it was noted that the
14 EDSTAC is not charged with developing clinical tests to assess endocrinological wellness, but
15 rather experimental toxicology related to endocrine disruption.

16
17 Regarding the interface between science and public policy, one Committee member noted the
18 difficulties attendant in banning or regulating chemicals already on the market. With respect to the
19 Alar scare, another Committee member noted that the scientist presented the Alar information
20 correctly, but the media blew the information out of proportion. Due to this unpredictability, the
21 Committee member urged the EDSTAC, and the COWG in particular, to try to anticipate potential
22 public relations/perception problems to the greatest extent possible.
23

24 With respect to the EDSTAC's scope, Dr. Goldman commented that the Committee is not
25 responsible for setting standards or for advising EPA on how to set them. Nor, she added, is the
26 Committee responsible for medical waste incineration issues. Dr. Goldman noted, in the convening
27 phase, many Committee members advocated for taking as comprehensive a strategy as possible to
28 address the widest possible scope of hormones. However, given the time pressures of
29 accomplishing the tasks and mandated deliverables, certain hormones were necessarily selected as
30 a starting point for the Committee's scope. The EDSTAC's recommendations will, however,
31 provide a general framework for EPA to use as new information comes forward in the application
32 of screening and testing programs for a variety of hormonal endpoints and mechanisms.
33

34 Regarding public comments about research, Dr. Goldman noted that the EDSTAC can make
35 recommendations concerning research and studies to be done, but that the Committee would not
36 be performing any research or studies itself. In response to comments regarding regulated agency
37 membership on the Committee, Dr. Goldman noted that the Agencies that generate waste are not
38 part of the EDSTAC, but that many agencies represented on the Committee are indeed regulators.
39

One Committee member replied to comments regarding the EDSTAC's scope and industry onus and burden of proof, noting that the industry representatives on the Committee are sincerely concerned that everything that is produced in their industry is safe for humans and the environment. He added that, with respect to scope, the hormonal areas identified as foci for the Committee's work are those where the Committee members believe the EDSTAC has the greatest chance of making solid decisions and recommendations given the deadlines and the current state of the science.

Another Committee member addressed Dr. Yang's comments regarding the consideration of mixtures stating that, while there may not yet seem to be a great deal of discussion on the subject at the plenary level, much work on mixtures was taking place at the work group level, and would eventually be brought before the full Committee.

Another Committee member pointed out that there is, indeed, representation on the EDSTAC by physicians who are treating patients with endocrinological disorders.

Dr. Goldman thanked the public for their thoughts, and expressed her appreciation of the public's attention and patience in observation of the involved, and sometimes intricate, discussions of the EDSTAC. One Committee member urged members of the public to look to their own communities, not the Committee, to find the solutions to community problems. Dr. Goldman echoed these sentiments, adding that she recognized the value of and need for inter-community communication and encouraged communities affected by endocrine disruption and hazardous waste to begin to engage each other in dialogue.

After the public comment period, several EDSTAC members expressed their recognition of the troubling health and environmental consequences of endocrine disruptors, but urged the public to recognize that the charge of the EDSTAC is to develop a screening and testing program for endocrine disruptors. Committee members encouraged future public comment on thoughts and ideas specifically related to the development of an effective, strategic, and efficient screening and testing program, rather than testimony related to the effects and perils of diseases and endocrine disruption. Public comment opportunities at the Chicago plenary and future meetings may, therefore, be designed to facilitate this type of discourse.

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V.

Following the Committee's deliberations on the first day of the plenary meeting, members of the public were invited to offer comments related to the scope and charge of the EDSTAC. The

1 public comment session lasted over two hours, and allowed time for more than forty individuals to
2 provide comment to Committee members, nearly all of whom were present. Due to the number of
3 individuals seeking to provide public comment, all those who signed up to speak to the EDSTAC
4 were requested to keep their comments to no more than four minutes in length. While this request
5 may have caused frustration on behalf of some individuals, the intended and effected result was to
6 allow all persons wishing to provide comment the opportunity to do so. Written comments
7 submitted by members of the public may be found in the public docket (Docket Number--OPPTS-
8 42189; phone 202-260-7099). This meeting summary attempts to capture the essence of the
9 comments made by members of the public to the EDSTAC during the public comment session.

10
11 Patricia Speth, a concerned citizen who comes from a family of farmers, expressed concern that
12 the agricultural industry may be adversely impacted by endocrine disruptors, prior to gaining
13 additional information about their effects. She expressed her support for the EDSTAC process
14 and suggested that the approach this problem should be deliberate and practical and urged that
15 solutions not be based on emotionalism or "junk science."

16
17 Joe DiGangi, of Greenpeace in Chicago and formerly a corporate scientist, spoke to the issue of
18 risk assessment. He urged the Committee to reopen the risk assessment discussion within the
19 Committee's deliberations because he feels as though the Committee has an obligation to show to
20 the public there is a disparity of views on this issue. He also would like to see industry take on the
21 burden of proof to demonstrate the safety of new chemicals.

22
23 Brett Hulsey, of the Sierra Club, mentioned his role on the FACA for water monitoring and
24 expressed concern about the fish people consume today and the lack of knowledge about fishing
25 advisories that exists and the potential for harm because of that lack of knowledge. He supports
26 due diligence for companies, particularly to handle the high costs associated with cleaning up
27 polluted areas. Finally, he urged the Committee to be conservative and make screens as extensive
28 as possible that go beyond adverse affect.

29
30 Mark Richie, of the Institute for Agriculture and Trade Policy, an organization that is concerned
31 about pollution and health concerns, particularly due to airborne chemicals, which may render
32 products produced in an organic manner polluted, suggested that multiple layers of impacts are of
33 great concern, as is the eroding market niche for organic products due to this pollution. He
34 cautioned the Committee to take the precaution that is necessary to protect public health, but to
35 also remember that decisions are being made to protect other industries as well.

36
37 Ellen Kauffman, of the Endometriosis Association in Chicago, stated that she was there
38 representing women with endometriosis and related information about the disease and some
39 concerns of those women who have it. She indicated that studies have shown that a transfer of
40 toxins can occur in-utero and during breast feeding, and the hormonal effects in children of

1 mothers with the disease are increasingly being realized. Ms. Kauffman related that there are 5 1/2
2 million cases of endometriosis today and is estimated to occur in 10% of women of reproductive
3 age. Endometriosis is affecting women at younger and younger ages with greater severity--the
4 costs of this disease are high.

5
6 Davis Baltz, of Commonweal, Inc., spoke directly about the screening and testing program,
7 suggesting that chemicals in the Stop Box should undergo a random sampling process in order to
8 ensure they have not been placed there erroneously. He also suggested breast milk should be
9 tested. Regarding Production and Use data, he supported breaking these out into two separate
10 categories because use information is quite different than production information. Mr. Baltz
11 expressed his support for the public's right to know about these issues every step of the way,
12 which includes a comprehensive educational effort.

13
14 Rob Christie, Director of Public Affairs for FMC Corporation, expressed concern both personally
15 and professionally about the work of the EDSTAC. He related his opinion that any direction the
16 Committee takes with public policy in this area should be based on sound science and he urged the
17 Committee to remain focused on their tasks, in order to reach the deadlines ahead of them.

18
19 Jackie Hunt Christensen, of Health Care Without Harm, asked the Committee to do the following:
20 1) recommend to EPA that chemicals such as dioxins be phased out immediately, rather than go to
21 tier 2 testing; 2) testing of chemicals used in medical products should be reviewed, as well as
22 products produced by health care facilities; and 3) make it a priority that chemicals that cross the
23 placenta or are present in breast milk should be tested.

24
25 Lynn Fahey McGrath, manager of risk assessment for Hoechst Corporation, a multinational
26 chemical company, said there is a clear need for chemical products to pose a minimal risk to
27 consumers and the environment. She urged against the publication of premature results and their
28 effects (e.g., poor deselection choices), noting that in Europe, positive results from a screen can
29 result in deselection. Her experience working in Europe has broadened her perspective on these
30 issues, and she encourages the Committee to incorporate greater coordination there. She also
31 encouraged the Screening and Testing Work Group to reevaluate baseline data and, at a minimum,
32 allow flexibility for data required in other countries.

33
34 Jack Weinberg of Greenpeace discussed some of the policy implications of the decisions EDSTAC
35 has already made. He noted that the concept of endocrine disruption used at the Wingspread
36 Conference was broader than that used by the EDSTAC and very useful because it captured a
37 range of mechanisms that operated at very minute concentrations. Mr. Weinberg recognized that,
38 for pragmatic reasons, the EDSTAC limited the scope of its efforts to three hormonal systems, but
39 asked the Committee to make clear to the public that the extent of endocrine disruption was not
40 circumscribed nor fully addressed by consideration of the three hormones in the EDSTAC's scope.

1
2 Linda Roberts, of Chevron, directed her comments to the Priority Setting Work Group. She
3 indicated that Chevron has had some experience with SAR models and, in terms of their utility and
4 use, she suggested that the accuracy of SAR output is a function of the degrees of structural
5 similarity between the untested chemicals and the tested chemicals. Regarding Option 3 of the
6 PSWG's presentation, she urged the work group to clarify what is meant by High, Low, and No
7 Data, especially in terms of production and use. For the No Data option, she supported using the
8 term "inadequate information". Regarding the Stop Box, Ms. Roberts suggested that there is not
9 much of a distinction between 20,000 and 40,000 chemicals, because many will not be tested in
10 our lifetime. She urged the Committee to evaluate the chemicals they do want to test and design
11 the program to incorporate them. Regarding the STWG activities, Ms. Roberts encouraged the
12 use of validation in the biological variability of the process. She suggested it would be helpful, for
13 example, to know how reproducible the endpoints are, how many animals are needed, and whether
14 the results are reproducible in good lab. Finally, regarding dose response, she asked for guidance
15 from the STWG on the sizes of doses it thinks is appropriate, particularly for the high and low
16 doses.

17
18 Joanna Hoelscher, Director of the Illinois office of Citizens for a Better Environment, thanked the
19 Committee for holding a meeting in Chicago and for the opportunity to comment. She urged the
20 EDSTAC to not lose sight of the broader mission of protecting public health and the environment
21 in both the short term and the long term, and therefore encouraged the use of the "precautionary
22 principle". Ms. Hoelscher then made specific comments directed toward PSWG and COWG. To
23 the PSWG, she said the CF must take into account the fact that there are already significant
24 amounts of information in the literature on chemicals already known to be endocrine disruptors,
25 and there should be a mechanism to fast track these in order to eliminate exposure. She also stated
26 that traditional risk assessment methodologies are inadequate to protect public health, which
27 should be included in the CF. Finally, she suggested prioritization be given to certain chemicals
28 based on bioavailability and persistence. To the COWG, she requested that scientific uncertainty
29 not be considered tantamount to an assumption of no danger.

30
31 Michael Murry of the National Wildlife Federation directed his comments to the PSWG as follows.
32 First, he suggested the uncertainty that exists with SARs has to be an issue when looking at
33 toxicological effects. Second, regarding the log K_{ow} , he suggests that increasing the K_{ow} means
34 increasing the bioaccumulation of chemicals and there is no reason why there should be an upper
35 limit on K_{ow} s. Third, Mr. Murray suggested that there are two potential sources of breakdown
36 products from plants--monomers and dimers--and the only way to control discharge of them is to
37 control discharge of their parent compounds. Finally, regarding exposure data, he encouraged
38 evaluation in a precautionary way because 2000 new chemicals are introduced each year and some
39 processes are still behind and testing old chemicals that were banned 20 years ago.
40

1 Sarah Janssen, a medical student who is a member of Physicians for Social Responsibility, raised
2 several concerns regarding potential endocrine disruptors. Specifically, she is concerned about
3 toxic releases from a local toxic waste incinerator as well as about endocrine disruptors in the air,
4 water, and ground. A main concern lies with her future potential patients and the ramifications of
5 these chemicals being emitted into the environment. Ms. Janssen commended the Committee for
6 its intention to screen and test mixtures and encouraged them to look at low doses. She also urged
7 for an increase in federal funding for the development of more sensitive assays.

8
9 Mark Holmer, of the Chemical Industry Council of Illinois, provided some general comments to
10 the Committee. He stressed the importance of remaining objective when examining such issues
11 and urged that sound science be applied. He praised EPA for reaching outside of its own
12 employees to create the Committee and for assembling such a diverse group. Finally, he urged that
13 science lead EPA to whatever regulatory path they take.

14
15 Ed Gunderson, chairman of regulatory affairs for the Chemical Industry Council of Illinois,
16 suggested any policies developed be based on sound science, be technically realistic, and serve to
17 protect the public health and the environment. He urged that protocols for the Screening and
18 Testing program provide conclusive data demonstrating beyond any doubt that an adverse effect
19 could result from a realistic exposure route. Mr. Gunderson also encouraged the use of a
20 scientific, dosage-risk-based approach to developing the program.

21
22 Lynn Lawson, with the Multiple Chemical Sensitivities: Health and Environment, described health
23 effects she presently experiences due to chemical sensitivity and lifestyle changes she has made to
24 limit exposures to such chemicals. Many of the chemicals indicated in personal blood tests, she
25 asserted, appear on lists of suspected endocrine disruptors. Ms. Lawson asked the EDSTAC to:
26 1) address the endocrine disrupting potential of mixtures first in their screening and testing
27 program; 2) consider new chemicals guilty until proven innocent; 3) “sunset” chemicals known, or
28 likely, to be endocrine disruptors, noting her feeling that any threshold for such chemicals is too
29 high.

30
31 Marjorie Fischer, of the League of Women Voters, stated that chemicals in the environment should
32 not impinge public health, especially the health of children. She added that the current position of
33 the League of Women Voters on pesticides is that exposures to people should be reduced and that
34 nontoxic alternatives to these pesticides should be used. Ms. Fischer noted that many suspected
35 endocrine disruptors would appear to be pesticides and would, therefore, seem to be of interest to
36 the League due to its interests, stances, and publications. She expressed appreciation of the
37 inclusive definition of endocrine disruptors tentatively being used by the Committee, and urged that
38 zero tolerance parameters be imposed on endocrine disrupting chemicals, especially in light of
39 effects caused by fetal exposure to such chemicals.

1 Cecile Sastre, from the Endometriosis Association, asked the EDSTAC to remember the real
2 effects diseases attributed to endocrine disruptors are having on humans. She described symptoms
3 and illnesses related to the disease of endometriosis, and noted that evidence indicates certain
4 chemicals are responsible for endometriosis and a myriad of other diseases. Ms. Sastre told the
5 Committee she is personally afflicted by endometriosis, and described the effects the disease has
6 had on her life, including severe chemical sensitivities, difficulties finding employment due to the
7 hazards of workplaces, as well as other lifestyle complications. She urged the EDSTAC to set
8 zero tolerance standards, and to consider the synergistic actions of chemicals.

9
10 Dr. George Raab, former chair of the Species Survival Unit of the Chicago Zoological Society,
11 commented on the synergies of chemical compounds affecting species. In particular, he sought to
12 report recent information on the phenomenon of declining amphibian populations in several parts
13 of the world. Although, he admitted, the ultimate causal effects and factors to which these
14 declines may be attributed have not yet been satisfactorily identified, he noted that some declines
15 indicate there might be endocrine disruption or distortion effects at work, especially in parts of
16 Central America. Dr. Raab urged the financing of studies on these declines and effects on the
17 broadest scale possible.

18
19 Jim Houston, with the International Joint Commission's Canadian Section in Ottawa, reflected on
20 the interface between efforts directed toward endocrine disruptors in his country and in the United
21 States. He noted that the earlier Canadians are involved in similar activities and are informed by
22 the United States on its efforts, the more efficiently the problem may be addressed.

23
24 Charlie Cray, of Greenpeace, stated that the fact that the Committee is focusing on developing a
25 screening and testing program should not delay current federal or state actions to phase out
26 products proven to cause endocrine disrupting effects. He noted there was a need to support
27 policies on endocrine disruptors even when uncertainties exist. Mr. Cray described current
28 European studies indicating the timeliness of phasing out the use and production of certain
29 chemicals. Particularly addressing the endocrine disrupting potential of chemicals in medical
30 products, Mr. Cray noted that allegedly safe alternatives are available and urged their use. He
31 encouraged the Committee to talk about releases and exposures of potentially endocrine disrupting
32 chemicals from common products into waste water and other media.

33
34 Chuck Elkins, an environmental consultant, commented that the Committee's TIS design sounded
35 fairly sophisticated and seemed consistent with the current state of the science and with similar
36 efforts. However, he expressed caution that a decision to use either one or a very small number of
37 decision makers to decide what testing would be done in a tailored approach could prove to be a
38 bottleneck in the screening and testing process. Mr. Elkins asked that the Committee pay
39 particular attention to communications issues in the sorting and prioritization process, as these
40 stages of the program could be misunderstood by both the public and decision makers.

1 Mary Beth Doyle, from the Ecology Center of Ann Arbor, thanked the Committee for conducting
2 a meeting in the Great Lakes region, and for the Committee's hard work. She encouraged the
3 Committee to adopt the "precautionary principle" in its program, and to insure chemicals are tested
4 thoroughly before being released into the environment. With respect to hormone disruptors, she
5 noted the inclusion of the word "adverse" in the working definition concerned her, and urged the
6 EDSTAC to develop a broader definition. In addition, Ms. Doyle expressed concern with the Stop
7 Box, noting her feeling that the scientific tools currently available to screen and test for endocrine
8 disruptors are too crude to send a chemical substances or mixtures definitively to the Stop Box.
9 Rather, she requested that such chemical substances or mixtures be assigned to a low priority
10 group. Furthermore, Ms. Doyle suggested that the EDSTAC "groundtruth" chemicals sent to the
11 Stop Box to ensure the accuracy of the screening and testing program. She also said that
12 community concern over a chemical substances or mixtures should be sufficient to pull a chemical
13 out of the Stop Box for re-entry into the screening and testing program.

14
15 Penny Richards, the Learning Disabilities Association of Illinois, Inc., expressed concern about the
16 impact of agricultural chemicals on the lifestyle and health of humans, and especially on her
17 developmentally disabled child. Specifically, Ms. Richards noted concern regarding hormonal
18 disruption due to fetal exposure, and urged the EDSTAC to promote and protect children's health.
19 She urged the Committee to adopt the "precautionary principle," adding that chemicals should not
20 have a "civil right" of being considered innocent or harmless until proven guilty. She stated that no
21 permission had been given by any human for a chemical body burden.

22
23 David De Rosa, from Greenpeace in Chicago, expressed his concern caused by the recognition
24 that, due to realistic constraints, all chemicals cannot be tested for endocrine disruption.
25 Therefore, he noted, he hoped that scientists would be able to learn from the EDSTAC's screening
26 and testing program how to make educated guesses about classes of chemicals, and that scientists
27 would apply that knowledge in anticipating any effect, not just adverse effects. Mr. De Rosa
28 stated that the screening and testing program should look at chemical substances or mixtures, as
29 well as their breakdown products, with which people come into contact on a daily basis. He
30 encouraged the prioritization process to use production volume figures, and requested that any
31 chemical proven to be an endocrine disruptor be banned.

32
33 Bill Holland, of Illinois Public Interest Research Group, stated his concern about the potential
34 hazards of minute doses of endocrine disrupting chemicals, noting that damage from exposure may
35 not be apparent until much later in an organism's development process. He stated that his
36 organization urged the adoption of both the "precautionary principle" and zero exposure
37 tolerances. Mr. Holland added that industry should be responsible for showing that their chemicals
38 are safe before approval, use, and release into the environment. Furthermore, he requested EPA
39 make significant and easily understandable efforts to educate the public on endocrine disruption
40 issues, chemicals being tested, and the endocrine disruptor screening and testing process.

1 Angel Cohoon, also of Greenpeace, offered great concern regarding the effects of endocrine
2 disruptors on early stages of development, especially due to fetal exposure from chemical
3 substances or mixtures present in pregnant mothers. She urged the Committee to consider using
4 the “precautionary principle” and to immediately phase out any chemical proven to be an endocrine
5 disruptor. Despite economic and practical difficulties, Ms. Cohoon expressed confidence that
6 scientific ability existed to eliminate proven endocrine disruptors.

7
8 Barbara Alexander Malarky, of the Waste Handlers Network, praised Illinois EPA’s efforts on
9 hormone disruption publications to date. She urged that the Committee’s prioritization process
10 place significant emphasis on the cumulative and synergistic effects of endocrine disruptors, and
11 that it not look at chemicals in isolation. Ms. Malarky expressed concern regarding the effects of
12 waste incinerators, especially from the disposal of dioxin and cows, due to the potential for
13 interaction of airborne endocrine disrupting chemicals.

14
15 Tracy Easthope, from the Ecology Center of Ann Arbor, recommended to the Committee that all
16 proceedings of the International Joint Commission and their science advisory board be included as
17 part of the official proceedings of the Committee. She noted that persistence is an important
18 criteria to consider in the screening and testing program, and that testing should be sensitive
19 sentinel species as an “early warning system” in order to avoid economic and human
20 health/environmental costs. In addition, she questioned the scientific ability to send a chemical
21 definitively to the Stop Box as indicated in the Conceptual Framework. Ms. Easthope encouraged
22 the Committee to look at research indicating that the timing of exposure has significant
23 implications for endocrine disrupting effects, including synergies and seasonal variations, due to
24 the fact that toxicity differs depending on stage of development and health of the organism at the
25 time of exposure (e.g., fetal exposure from mother’s body burden). She expressed concern about:
26 limitations on exposure detection due to the state of the science; the Committee’s working
27 definition of an “endocrine disruptor”; and the potential for a lack of clarity about screening and
28 testing results (e.g., whether or not a chemical substances or mixtures is an endocrine disruptor if
29 results of T1S or T2T are mixed). Finally, Ms. Easthope emphasized the importance of risk
30 assessment considerations in the Committee’s development of a screening and testing program, as
31 well as the need to constantly reevaluate the effectiveness of whatever tools are designed to
32 address the endocrine disruptor issue.

34 **Response to Public Comment**

35
36 Dr. Goldman noted that while the Committee is not yet, as a whole, in agreement on the role of
37 risk assessment and its use in regulating chemicals, discussion on the subject had not at any point
38 been constrained or inhibited. She asked members of the public to remember that this, in addition

1 to other issues, are still at a level of tentative agreement, and not to characterize all of the
2 EDSTAC's deliberations as firmly agreed upon.

3
4 In response to one commenter's request that the EDSTAC look at the international context and
5 regulatory practices in the European Union as it proceeds in its deliberations, Dr. Goldman
6 indicated this was an issue for the STWG to consider. However, she cautioned that some testing
7 data used by European authorities might not be available for the EDSTAC's screening and testing
8 program due to confidential business information constraints and to differences in evaluation
9 methods.

10
11 With respect to international harmonization and coordination issues, Dr. Goldman reminded the
12 Committee and members of the public, that EPA and the EDSTAC have begun to cooperate with
13 other international organizations on endocrine disruption issues. Specifically, interaction is
14 currently underway with the OECD, with one of EPA's specific goals being the structuring of the
15 Committee's work to make its efforts available to the OECD, and vice versa.

16
17 She also highlighted recent and ongoing international coordination efforts with the Summit of
18 Eight, where an environmental agenda was put together for protecting children on an international
19 level, including the consideration of endocrine disruption. In addition, the United States is
20 involved in the International Program for Chemical Safety, an international effort that will involve
21 the coordination and collaboration of research on matters of chemical safety and endocrine
22 disruption.

23
24 With respect to comments regarding the Committee's tentative definition of an "endocrine
25 disruptor" and its decision to focus its efforts on a defined set of endpoints related to estrogen-,
26 androgen-, and thyroid-related effects, Dr. Goldman agreed with one commenter that the
27 Committee should take care to recognize that these hormones did not constitute the full extent of
28 potential endocrine disruption. In addition, she noted that, while the EDSTAC will focus on the
29 three specified hormonal systems, the Committee plans to develop broader guiding principles for a
30 broader application of the screening and testing program to consider endocrine disruptors in
31 general.

32
33 With respect to the issue of screening and testing mixtures, one EDSTAC member noted that the
34 issue is being taken very seriously, and is presently being addressed by the PSWG. Although a
35 specific formula for addressing mixtures in the sorting, priority setting, screening, and testing
36 processes has not yet been developed, it was indicated that more information would likely be
37 available on the issue in upcoming plenary meetings.

38
39 Several Committee members expressed their appreciation of the public comments, noting in
40 particular the scientific and policy-related sophistication of the remarks. Committee members, in

1 response to some of the public remarks, noted their recognition of the multiple and sensitive issues
2 tied to communication, and reiterated their intention to give this aspect of the screening and testing
3 program great attention.
4

5 **October 7-8, 1997 – New York, New York**

6 **VI.**

7
8 Following the Committee's deliberations on the first day of the plenary meeting, members of the
9 public were invited to offer comments related to the scope and charge of the EDSTAC. The
10 public comment session lasted over two hours, and allowed time for approximately twenty-five
11 individuals to provide comment to Committee members, nearly all of whom were present. Written
12 comments submitted by members of the public may be found in the public docket (Docket
13 Number--OPPTS-42189; phone 202-260-7099). This meeting summary attempts to capture the
14 essence of the comments made by members of the public to the EDSTAC during the public
15 comment session.
16

17 Frank Stoppenbach, a resident of the Hudson Valley, noted that he was concerned about the
18 presence of PCBs in his community and about the impacts on small communities of chemical
19 exposures. He encouraged the consideration of fetal and developmental exposures in the
20 EDSTAC screening and testing program. Furthermore, Mr. Stoppenbach encouraged that data
21 regarding endocrine disruptors generated by the screening and testing program be made as publicly
22 accessible as possible. He expressed concern, as well, about the use of SLAP suits in his
23 community.
24

25 Greg Koontz, director of regulatory affairs for the Chemical Producers and Distributors
26 Association, described benefits of the products supported by his organization. He encouraged
27 support for efficient, cost effective responses to environmental problems commensurate with the
28 problems they are meant to address. He noted concern about the impact of regulatory actions on
29 small businesses, as well as cost impacts from such regulation. Mr. Koontz questioned the scope
30 of the endocrine disruption issue, as well as the accuracy and ability of assays to detect designated
31 endpoints. He encouraged the Committee to clarify the definitional and utilization issues of false
32 positives and negatives, and urged a balanced approach to risk assessment.
33

34 Ralph Magin, a research and development scientist with the Albermarle Corporation, expressed his
35 support for toxicity testing requirements that afford increased public health protection. He noted
36 the broad array of assays under consideration, and encouraged the Committee to be pragmatic in
37 its selection process. He also noted that toxicity screening and testing is a decision-oriented
38 process and should be characterized by relevant and reliable endpoints and methods, upon which

1 clear interpretations of results can be made. Mr. Magin stated that those who review and interpret
2 the testing results will not likely be research scientists, and that opportunities to clarify ambiguities
3 will not be forthcoming once the EDSTAC process is concluded. He questioned the present
4 potential scope of screens under consideration by the STWG, and encouraged the group to be
5 pragmatic and to use validated assays in the screening and testing tiers to ensure, among other
6 things, that resources are not expended to study chemicals of little concern.

7
8 Laura Whatley, with American Cyanamid Company, recognized the need to know about endocrine
9 disrupting chemicals, and recommended the development of a deliberate, practical approach to do
10 so, in order to save time and resources. She furthermore encouraged the Committee to base its
11 recommendations on sound, verifiable science so that future policy would be based on that sound
12 science.

13
14 Geri Barish, president of the Long Island Breast Cancer Coalition and a member of One in Nine, a
15 breast cancer support and advocacy group, noted concern about the growing chemical use of
16 developing countries and the breast cancer rates in these countries. She offered DDT use in India
17 as an example of this, and noted the lack of public access to politicians, scientists, and education
18 regardless of culture.

19
20 Ed Sabo, New York coordinator for the Chlorine Chemistry Council, stated his support for the
21 EDSTAC process, noting that the endocrine disruptor issue is a complex subject with limited
22 scientific information on which to base public policy. He commented that the goal of achieving
23 consensus on a screening and testing program requires staying focused, and urged the Committee
24 not to lose focus by wanting to develop a list of endocrine disruptors. He indicated that such
25 development was not a part of the EDSTAC's mission. Mr. Sabo expressed his feeling that
26 chemicals entering the screening and testing program through the nominations process should
27 undergo screening through the same criteria as all other chemicals. Finally he stated that diligence
28 will ensure that laws and regulations will be based on sound science.

29
30 Linda Roberts, of Chevron Research and Technology Company, commented that *in utero* tests
31 should be included in the screening and testing program as definitive testing. In addition, she
32 noted that definitive testing should more thoroughly characterize toxicity, and that *in utero* assays
33 would be a benefit in doing this. Ms. Roberts indicated her preference that laboratories expend
34 resources on such testing rather than on screens.

35
36 Mary Dauden, with the Coalition Organized to Protect the Environment, stated that the first and
37 foremost role of government is the protection and quality of human health. She expressed support
38 for the use of *in utero* developmental assays examine responses in populations at greatest risk,
39 from pre-natal fetuses to infants to the elderly. She said that fetuses are exposed to many
40 chemicals which can cause cancer and mental disabilities.

1 Walter Schroeder, of the Nassau/Suffolk Landscape Gardeners Association, Inc., on Long Island,
2 said that the EDSTAC was doing a great job for the most part. He noted awareness of breast
3 cancer incidences in his community, but indicated that the determination of pesticides as causative
4 factors in breast cancer is not clear cut. Mr. Schroeder cited the retraction of the Tulane study and
5 Steve Safe's article as examples of the continuing debate over the effects of endocrine disruptors,
6 and encouraged the Committee to act prudently.

7
8 Diana Hinchcliff, executive director of the New York State Chemical Alliance, indicated her
9 support of the EDSTAC process and her hope that the Committee's goal will be accomplished in
10 an objective manner. Ms. Hinchcliff cited the public's likely misinterpretation of lists and past
11 examples of misuse or misunderstanding of lists as reasons to avoid developing lists of chemicals
12 or to deliberate at length on the use of chemicals. Rather, she suggested the Committee create an
13 endocrine disruptor screening and testing program based on the best available science to determine
14 which chemicals have endocrine disruption potential, and to do so carefully, expeditiously, and
15 judiciously, bearing in mind issues related to implementation.

16
17 Hamdy Balba, with Uniroyal Chemical Company, referenced the adverse effects of many endocrine
18 disruptors in urging the Committee to use an analytical and methodological approach in creating its
19 screening and testing program. He suggested the establishment of a database for all documented
20 and suspected industrial and natural chemicals with endocrinological properties. Mr. Balba
21 encouraged the development of a reliable assay for confirming endocrinological activities to assist
22 the regulatory agencies in prioritizing chemicals for screening and testing and protecting public
23 health and the environment. Finally, he advised the Committee to be aware of possible
24 antagonistic, synergistic effects of chemicals.

25
26 Joe Gregella, executive director of the Long Island Farm Bureau, noted that farmers are extremely
27 concerned, as are commercial applicators, of any potential impacts of pesticides. He stated that he
28 hoped the EDSTAC could help instill public confidence in the government by reintroducing sound
29 science to policy. Mr. Gregella urged that science dictate the decisions made by the EDSTAC. He
30 acknowledged the emotional aspects of the debate over the endocrine disruption issue and urged
31 for the development of studies that can be verified and validated by peer reviews and
32 reproducibility. Furthermore, he noted that public policy needs to balance many variables,
33 including economic and social concerns, but he hoped it would do so guided by sound science.

34
35 Jim Lamb, a toxicologist with Jelnecks, Schwartz, and Connelly, commented that the design of the
36 entire system needs to be built with primary objective of being able to do a risk assessment on
37 adverse effects on the endocrine system, noting his belief that the "adverse" qualifier was critical.
38 Mr. Lamb also stated that *in utero* testing is critical to the endocrine disruption argument, but
39 urged that it be conducted in the testing tier, not in the screening tier. He stated his support for a

1 bypass option for chemicals to go straight from prioritization to testing, contingent upon the design
2 of a comprehensive testing tier.

3
4 Davis Baltz, with Commonweal, asked whether degradation products and metabolites be captured
5 by the assay battery of the screening tier of the screening and testing program, and expressed
6 concern regarding the perceived difficulty of moving a chemical out of the “Hold” box. He
7 questioned the ability of the Committee to focus testing on the hypothalamus-pituitary-gonadol
8 (HPG) axis, given the rapidly emerging and developing state of the science related to endocrine
9 disruption. Regarding the screening battery, Mr. Baltz commented that the battery needed to
10 maintain flexibility to address issues not anticipated by the Committee. He also noted his belief
11 that the addition of an invertebrate assay to the screening and testing program was critical to
12 support EPA’s goal of protecting the environment. Mr. Baltz noted that the issue of how to
13 address commonly found mixtures had not yet been agreed upon by the EDSTAC, and indicated
14 his concern about the chemical body burden issue. He asked how new chemicals would be handled
15 by the screening and testing program, urging that they be handled more stringently and that they be
16 screened and tested right away. Commenting on the nominations process, Mr. Baltz indicated his
17 support for the concept of giving the public a process to offer input into the screening and testing
18 program, and noted his belief that a separate set of criteria should be established to gauge the
19 merits of the chemical nominations.

20
21 Marian Feinberg, of the South Bronx Clean Air Coalition, referenced concern regarding childhood
22 cancer incidences and prenatal sensitivity in requesting that screening and testing tiers agreed upon
23 by the Committee capture the broadest possible mechanisms. Ms. Feinberg asserted that inner-city
24 communities are being heavily impacted by endocrine disruptor-related illnesses, and urged that the
25 roots of transmission (e.g., ingestion, inhalation) of such diseases be examined. She also
26 commented on an alleged lack of union representation on the Committee and in the audience, as
27 well as a lack of representation by impacted community representatives. She encouraged the
28 Committee and the COWG to develop publicly accessible and intelligible language in presenting
29 the EDSTAC’s deliberations and recommendations.

30
31 Jim Moore, executive director of the New York Coalition for Alternatives to Pesticides,
32 encouraged the EDSTAC to adopt the precautionary principle. He indicated his desire for the
33 onus to be on manufacturers to prove the safety of chemicals, or to offer compelling reasons for
34 bringing products to market that transcend doubt. He cited DES, DDT, and thalidomide as
35 examples of science policy failures that did not determine safety prior to release, and noted that
36 science should not dominate public policy but that it should be a part of policy making. He
37 commented that the Committee’s definition of
38 “adverse” effects is too narrow given the lack of knowledge in the field, and stated that the
39 EDSTAC’s top priority should be a true understanding of the true mechanisms of endocrine

1 disruption. Mr. Moore stated his desire for a greater emphasis on research into endocrine
2 disruption issues.

3
4 Christian Klossner, with the New York Public Interest Research Group, noted his concern
5 regarding the increasing use of pesticides in this country and their effects on endocrine systems.
6 With respect to priority setting, he stated his belief that the prioritization criteria should be:
7 chemicals that are implicated by current toxicological or endocrinological data; chemicals that
8 bioaccumulate or are persistent; likelihood of exposure; consumer products; and child exposure.
9 He indicated that he felt pesticides fit all of these categories and should, therefore, be of priority
10 for the endocrine disruptor program. Regarding screening and testing, he requested that the
11 Committee include assays and tests designed to encompass developmental and fetal life stages.
12 Mr. Klossner indicated his support for the EDSTAC's careful consideration of conventional risk
13 assessment, and encouraged the Committee to examine chemical synergies. He asked that the
14 onus of proof of chemical safety lie with the chemicals' producers.

15
16 Wanda Cohen asked the Committee about timeframes, required resources, and risk management
17 issues related to the screening and testing program. In addition, she questioned how new
18 information would be integrated into the process, and whether endocrine effects beyond estrogen,
19 androgen, and thyroid would be addressed. She also asked about the development of the chemical
20 nominations process and public accessibility of information coming out of the screening and testing
21 program. Ms. Cohen commented that she was unsure how multisystem effects such as
22 multineurological effects, degradation products, intermediates, and metabolites would be
23 accounted for in the priority setting criteria. She asked about additional legislative authorities that
24 might be applicable to the EDSTAC's work, such as the Clean Air Act. Ms. Cohen questioned
25 how the process of updating databases of information would take place and how the databases
26 would be kept useful and accessible to the public. She also commented that exposure is not
27 necessarily equivalent to effect.

28
29 Bill Sanock, with the Cornell Cooperative Extension, commented that he works closely with breast
30 cancer groups, as well as pesticide users, and noted that those who use pesticides have great
31 concern about their safety and support the Committee's work to provide more information. He
32 stated the need to use good, practical science in the process, and asked how the EDSTAC would
33 communicate results and recommendations of the screening and testing program to the public. He
34 encouraged the Committee to approach risk assessment and exposure issues using common sense
35 and practical research.

36
37 Judith Helfund, with the DES Cancer Network, stated that Long Island has the highest rate of
38 DES exposure in the country, and indicated the region's required attention on related issues. She
39 offered a very detailed account of personal physical problems due to DES exposure as a youth, and
40 urged the Committee to adopt the precautionary principle to avoid future incidences similar to her

own. In addition, Ms. Helfund asserted that transgenerational impact of DES exposure and endocrine disruption was a reality, and should be considered as the effects would be manifested long after exposure. She stated that information is needed to make informed decisions and to give consent to exposure.

Minna Barrett, professor of environmental psychology at the State University of New York, stated that her mother had died of thyroid and breast cancer. She encouraged the Committee to include lifespan scrutiny and mechanisms (especially with respect to fetal exposure), synergistic chemical reactions (including low dose exposure and inert synergies) health implications for endocrine sensitive cancers and other diseases, and synchronicity, bioaccumulative, and persistent considerations in the endocrine disruptor screening and testing program. She encouraged the EDSTAC to include an analysis of developmental endpoints in the screening and testing tiers to catch effects of chemicals to which neonatal children are often exposed. Ms. Barrett stated her perception that many of the endocrine disruptor issues had been perpetuated by the economy, and indicated her sense that industry is suspect. She commented that low risk allowances are not acceptable, and that only no risk situations would be acceptable.

Response to Public Comment

Lynn Goldman thanked the public for their comments, noting that they reflected the serious challenge to the Committee and EPA to protect human health and the environment, and to do so in ways that are effective, cost effective, and practical. She stated that she expected a mutually beneficial outcome for both economic development and environmental protection if the EDSTAC was successful in reaching its goals. With respect to public access to information, Dr. Goldman commented that efforts have been made to develop an endocrine disruptor Web site and to keep it updated.

With respect to the retraction of the Tulane study, Dr. Goldman indicated her belief that the portrayal of the situation surrounding the retraction had been inaccurate. She noted that, while that particular study had been withdrawn because it cannot be reproduced, other studies exist in the literature supporting the synergy of endocrine disrupting chemicals. Furthermore, she commented that the legislation that started the EDSTAC process was introduced several months prior to the publication of the Tulane study.

Dr. Goldman commented on the obvious thoughtful preparation by commenters, and recognized their efforts. She reiterated that the EDSTAC process has been a science-based process from the very outset, and that it would continue to be so. In response to some comments, she noted that EPA is engaged in activities to address the rising rates of childhood cancer.

1 One Committee member responded to Mr. Baltz' concern with respect to the handling of mixtures
2 by noting that the subject was being addressed by the PSWG and that the issues of identification,
3 prioritization, and technical aspects of how to screen and test mixtures still needed to be discussed.
4

5 Dr. Goldman, in response to public comments about the inclusion of an *in utero* assay in the
6 screening and testing program, commented that there is no debate in the Committee about whether
7 it should be part of the process, but rather where in the process it should be included (i.e., T1S or
8 T2T). With respect to prenatal detection of childhood cancer, she commented that while the
9 concern is valid, it is not within the scope of the EDSTAC but that other EPA offices are
10 addressing the issue. Regarding public comments about missing or inappropriate Committee
11 representation, she stated that not all EDSTAC members were present at the New York meeting,
12 but that the EDSTAC did have union representation and environmental justice representation, and
13 that membership on the Committee from industry was important and vital for consensus. Dr.
14 Goldman noted that environmental protection has often been done in an adversarial manner with
15 industry, but that the EDSTAC represents a coming together around a common interest and in
16 good will.
17

18 Some members of the public commented critically about the location of the New York plenary as
19 being inconvenient and inaccessible by mass transportation. Dr. Goldman acknowledged these
20 criticisms and offered an explanation of why the meeting had to be held in the determined location.
21 However, she indicated that future meetings would try to address the public's concerns.
22

23 Committee members summarized for the public some of the COWG's efforts, and the work
24 group's goals of making all Committee communication palatable, understandable, and clear for the
25 public. It was also noted that a survey had been widely distributed by EPA on communications
26 issues related to the EDSTAC, and that copies of the survey were available for those who desired
27 to complete the forms. Members of the COWG expressed interest in hearing from the public how
28 to efficiently and effectively communicate with and to the public, and encourage members of the
29 public to assist COWG by offering suggestions.
30

31 David Parkinson, a Committee member, referenced his years of working with steelworkers and
32 other union groups, noting that he, indeed, did lend a union perspective to the EDSTAC, counter
33 to public statements to the contrary. He noted his current affiliation with occupational and
34 environmental health clinics in the New York area, funded partly by state, and his desire to work
35 with environmental groups in the area to design something they can do for themselves to test and
36 monitor health concerns. In addition, Mr. Parkinson indicated the willingness of the clinics to
37 assist patients who are sick and need evaluation given an environmental problem even without
38 health insurance.
39

One Committee member thanked the public for their comments, and acknowledged her appreciation as a scientist for the calls from observers for policy based on sound science. In addition, she acknowledged the need to balance science with other factors to create sound public policy. She noted that repeatability and peer review are of great importance to the EDSTAC, and her appreciation for the public's encouragement of the adoption of the precautionary principle.

EDSTAC members indicated their support for a public nominations process, in recognition of the importance that the public have a continuing role in the endocrine disruptor screening and testing process. Members of the Committee noted their intention to scrutinize similar programs already in place at other organizations or agencies in the design of the EDSTAC's process.

Industry representatives on the EDSTAC encouraged the public to overcome their mistrust of the sector by focusing on the Committee's product, and by remembering that many scientists working with industry have spent a great deal of time training to learn about the issues without malintent. It was stated that public input is very important to the EDSTAC process, and that industry representation is present because industry has a responsibility, as a stakeholder, to be involved in the consensus-building process.

VII. December 2-3, 1997 – Orlando, Florida

Ellen Bregg, of the Coalition to Stop Children's Exposures to Pesticides, urged the EPA to allow independent laboratories to perform testing in addition to that done by the EPA. She expressed concern about the use of pesticides in urban areas and the effects of low dose exposures to malathion and pesticides. Ms. Bregg said she would like to see more educational information about pesticides. She stated she wants to know which chemicals will be addressed by the screening and testing program, whether chemical effects will be looked at individually or cumulatively, and whether there will be a focus on the effects at the developmental stage. Ms. Bregg added she would like to see press releases providing updates on the Committee's progress.

Greg Koontz, Regulatory Affairs Manager for the Chemical Producers and Distributors Association, emphasized the burden of the screening and testing program needs to be commensurate with the gravity of the adverse effects caused by endocrine mediated toxicity. He indicated chemicals with health, safety, or other benefits should not be sacrificed through regulatory overkill, and the demands of an endocrine screening and testing program should be flexible to reflect the seriousness of the threat as demonstrated by science. Such a program, Mr.

1 Koontz stressed, should be efficient and cost-effective. He expressed support for further research
2 into potential endocrine disruptor effects from low doses but opposes a test program including low
3 dose testing unless the need for it is substantiated by good science, and then only if the hypothesis
4 applies generally to chemicals and not just exceptional cases. He expressed concern with the
5 testing program possibly increasing overall risks to public health by reducing the availability of
6 certain chemicals or by scaring the public into not using particular products (for example,
7 mosquito-control chemicals, the use of which aids in preventing cases of viral equine encephalitis.)
8 Mr. Koontz suggested using a nomination approach, whereby chemicals would proceed through
9 the normal priority setting process. Mr. Koontz finished by saying the EPA, if needed, should ask
10 Congress for more time to implement a sensible approach.

11
12 Chuck Elkins, an environmental consultant with Jellinek, Schwartz, & Connolly, Inc., presented
13 five ideas. First, the success of EDSTAC will not be based upon how many chemicals are
14 screened, rather on whether the information coming out of the program is useful. Second, while
15 chemicals are in the program they are highly vulnerable as a full data set is not available until the
16 chemical in question gets to the end of the program. Third, each stage of the program needs to be
17 clearly defined (e.g., what is screening). Fourth, only EDSTAC has the credibility to make
18 recommendations and, in so doing, they need to write their words carefully, work on principles,
19 and avoid using lists. Fifth, too many chemicals should not be forced into the program at the
20 beginning as the system will break down if chemicals do not get through the program quickly.

21
22 John Brennan, a high school biology teacher from Orlando, Florida, discussed his concerns about
23 the influence of the media regarding the level of attention the issue of endocrine disruption
24 receives. He commented that although some sensationalism pushes the issue, which can be
25 beneficial, it is important to take a reasoned approach and consider all sides. As an example, Mr.
26 Brennan pointed out both the benefits (e.g. possible safeguard against lime disease) and detriments
27 (e.g. health risks from exposure) of applying insecticide to a child. He encouraged the Committee
28 to keep an open, scientific mind about the issue of endocrine disruption and not let the press
29 influence its decisions.

30
31 Nancy Stephens, Executive Director of the Florida Manufacturing and Chemical Council,
32 emphasized the need for the Committee to balance the importance of chemical use with the safety
33 issues associated with such use. She requested the Committee not be persuaded by political and
34 emotional agendas, but rather address the issue of endocrine disruption on a scientific basis. Ms.
35 Stephens suggested the Committee provide EPA with a "tool box" with which the Agency can
36 evaluate chemicals.

37
38 Suzanne Spencer, representing the Northeast Florida Chapter of the Sierra Club, stated there is an
39 urgent need to develop a screening and testing program to detect endocrine disruption in humans,
40 fish, and wildlife. She brought a letter from Maurice Coman, Chair to the Northeast Florida

1 Group, Sierra Club, discussing the link between dioxin and related chemicals to cancer and
2 reproductive, immunological, and developmental dysfunction. Ms. Spencer also brought
3 correspondence from the Food and Drug Administration involving consumer exposure to dioxin
4 through food sources. She noted the need to do significantly more research concerning the health
5 effects of environmental hazards on children, and added the threat to children will persist until this
6 happens.

7
8 Davis Baltz, of Commonweal and member of the EDSTAC Communications and Outreach Work
9 Group, reminded the Committee that over the past year it has heard from a broad cross-section of
10 Americans concerned about the implications of endocrine disruption, including the following:
11 Sierra Club; Endometriosis Association; cancer survivors; learning disability networks; consumers;
12 environmental justice representatives; mothers; pregnant women; farmers; ranchers; gardeners;
13 unions; small business; environmental consultants; veterinarians; the League of Women Voters;
14 and, individual citizens. Mr. Baltz noted a common theme to be concern for children and added, it
15 should be remembered, that as adults, we impose risks on our children without their consent. He
16 reminded the Committee of its agreement regarding the definition of 'screening' as "the application
17 of assays to detect the potential for endocrine disrupting properties of chemical substances and
18 mixtures." Mr. Baltz emphasized that, for the promotion of children's healthy development, the
19 EDSTAC must include a means for establishing developmental endpoints for low doses at the
20 'screening' phase.

21
22 Betty Mekdeci, Director of the Association of Birth Defect Children Inc. (ABDC), indicated the
23 greatest examples of how exposure to herbicides increases the likelihood that a child will suffer
24 from a disability or birth defect, are the children of Vietnam veterans. She spoke of an analysis,
25 performed by ABDC and the New Jersey Agent Orange Commission, which identified disabilities
26 in 800 children of Vietnam veterans compared to 400 children of non-Vietnam veterans and noted
27 further evidence suggested the effects could be transgenerational. Ms. Mekdeci said the types of
28 problems included; chronic skin disorders, benign tumors/cysts, cancers, emotional/behavioral
29 problems, chronic fatigue, tooth problems, and others. Ms. Mekdeci expressed concern with the
30 lack of accurate exposure data on herbicides.

31
32 Andy LaVigne, Executive Director of the Florida Fertilizer and Agrichemical Association, stated
33 extensive testing is performed on agricultural chemicals and pesticides before these products are
34 used. He said no scientist will give a determination of zero risk regarding the use of a specific
35 chemical because there are so many variables potentially impacting the effects related to use. Mr.
36 LaVigne said claims of pesticides not being well tested before registration and release for public
37 use, and claims they are not specifically tested for estrogenic activity, are not true. He noted EPA
38 requires each pesticide be thoroughly tested for its potential to cause adverse effects, including
39 hormone disruption. Mr. LaVigne requested the Committee not use a "paparazzi science"
40 approach but rather develop a screening program based on the best available scientific data.

1 Pam Williams, of the Endo Association, indicated that dioxins are one of the most toxic
2 compounds known to man and are linked to endometriosis and other health problems. Ms.
3 Williams said ninety percent of human dioxin exposure is from meat and dairy products because
4 the animals from which these products originate, are exposed to dioxins via pesticides, herbicides,
5 plastics incineration (PVC), and pulp and paper production processes. Ms. Williams urged the
6 Committee to consider the following questions: how much is too much; can the current levels of
7 dioxins already present be reduced; are there other ways to do what we are doing; and, what effect
8 will these changes have on the future of humanity?

10 Keith Branly, Vice President of Research and Development of Micro Flo, a small pesticide
11 formulating business, stated the need for the burdens to equal the benefits which result from
12 pesticide regulation. He noted many small businesses are impacted by toxicity testing and the
13 demands of a screening and testing program need to be viable and cost effective. Mr. Branly
14 added testing and screening requirements should not deprive the public of the use of products with
15 clear health benefits. Regarding the issue of low-dose testing raised in T2T, he said he feels it is
16 not cost-effective and is premature until a low-dose testing hypothesis is accepted by the scientific
17 community.

19 Katie Holmes, an aquatic toxicologist, requested the Committee verify the practicality, not just the
20 theory behind, the studies it recommends be used to analyze potential endocrine disruptors. Ms.
21 Holmes encouraged the EDSTAC to consult with individuals who run relevant studies dial, and are
22 aware of the scientific and practical issues associated with the tests. She expressed particular
23 concern regarding the mysid life-cycle, fish life-cycle, and avian reproduction studies being
24 considered by the Committee.

26 Jeannie Economos, of the Farmworkers of Florida, expressed concern about farmworker exposure
27 to pesticides and related health effects. She stated chemicals are being screened on an individual
28 basis when, in fact, people are exposed to all kinds of chemicals over time and therefore, the
29 cumulative effects associated with chemical exposure should be considered. Ms. Economos
30 commented on the high incidence of miscarriage among farmworkers and said she wants to see
31 studies performed on this particular sector in order to evaluate the long-term effects of chemical
32 exposure.

34 Lukner Millen, speaking on behalf of farmworkers, indicated there are still many instances where
35 pesticides are being used in the vicinity of workers. He told a story of a female farmworker who
36 was working in the fields when she broke out in a rash all over her body and was unable to identify
37 the pesticides to which she had been exposed. Mr. Millen commented that exposure problems
38 persist and he wants the persons responsible for exposing farmworkers to pesticides (e.g., spraying
39 the fields while workers are present) to be held accountable for their actions. He closed by saying
40 he is counting on the Committee to act to change this situation.

1
2 Joy Cummings, a Florida rancher and farmer, explained she was a chemicals sales representative
3 until she realized the harmful effects associated with chemical exposure. After moving to her farm
4 she found her community was contaminated. Ms. Cummings remarked that people are eating fish
5 contaminated with dioxins, female fish are taking on male sexual characteristics (as are some
6 female humans in the community), and there is a high rate of children with learning disabilities as
7 well as a high rate of leukemia. She stated she worked on a dioxin FACA and is still worried
8 about the dioxins which she believes are probably caused from chlorine. Her message to industry
9 was to stop dumping poisons and to stop using chlorine.

10
11 Linda Young, Southeast coordinator of the Clean Water Network, stated she was also speaking on
12 behalf of Margaret Williams of the Citizens for Toxic Exposure, a group located in southern
13 Florida which evolved due to concern about citizens' health. She emphasized the public health
14 must not go unprotected because of scientific uncertainties and encouraged the application of the
15 precautionary principle. Ms. Young also noted the need to assess the effects of chemicals on the
16 most vulnerable populations, including the fetus.

17
18 Lisa Doig, of the Farmworkers Association of Florida, Inc., stated she strongly suspects a direct
19 relationship between exposure to pesticides and worker outbreaks of rashes, welts, bumps on the
20 body, birth defects, and miscarriages. She commented on cases where women farmworkers
21 experienced rashes, believed to be caused by chemical exposure, and then subsequently had
22 miscarriages. Ms. Doig suggested an in-depth study into the cause and effect relationship of
23 pesticides and public health threats, and making available to the public the results.

24
25 Estaban Caro Jr., a farmworker, stated that as a common worker he is exposed to a number of
26 different pesticides and suffers from itching and swelling skin. He said the farmworkers are aware
27 of their exposure to such chemicals on a daily basis. With the help of organizations like the
28 Farmworkers Association, Mr. Caro explained, workers have been better able to get needed
29 information about how to protect themselves from pesticide exposure and how to get treatment
30 once exposure occurs. He expressed concern about how the exposure will affect him and other
31 workers in the long run and asked the Committee to do whatever possible to make the
32 farmworkers lives a little better.

33 **Response to Public Comment**

34
35 Dr. Lynn Goldman thanked the public for their comments and reminded them of the Committee's
36 scope. She expressed concern about the fern industry and indicated more attention needs to be
37 focused in this area. Dr. Goldman noted the need for the Committee to understand the extent of
38 exposure possible and to understand that laws and regulations do not always work as they should.
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